

Patent Claims

1. A stabilizer composed of

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(I) one or more polyisocyanates having an average of from 2 to 10 isocyanate groups per molecule, preferably from 2.1 to 10, particularly preferably from 2.2 to 10,

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(II) per mole of isocyanate groups, from 0.1 to 1.0 mol of one or more active ingredient groups which protect plastics from degradation via heat, UV radiation, oxidation, hydrolysis, or mechanical action during processing, where the active ingredient groups have been linked to the polyisocyanates by way of functional groups A which can react with the isocyanate groups, and where the active ingredient groups have been selected from phenols, sterically hindered amines (HALS stabilizers), benzotriazoles, benzophenones, aromatic amines, or phosphites;

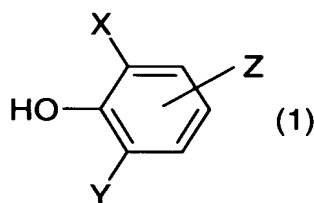
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(III) per mole of isocyanate groups, from 0 to 0.9 mol of one or more auxiliary groups which modify the properties of the stabilizer, where the auxiliary groups have been linked to the polyisocyanates by way of functional groups B which can react with the isocyanate groups.

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2. A stabilizer as claimed in claim 1, containing, as active ingredient groups (II), sterically hindered phenols of the general formula (1)

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in bonded form,

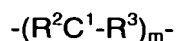
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where each of X and Y is, independently of the other, a hydrogen atom or a straight-chain, branched, or cyclic alkyl radical having from 1 to 12 carbon atoms, and Z is a radical of the formula



where R^1 is a single bond or a linear or branched divalent organic radical having from 1 to 100 carbon atoms, preferably from 1 to 12 carbon atoms, particularly preferably from 1 to 6 carbon atoms, or R^1 is a divalent radical of the formula

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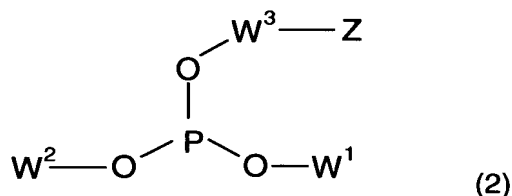
where each of R^2 and R^3 is identical with or different from the other and, independently of the other, is a single bond, a linear or branched divalent organic radical having from 1 to 50 carbon atoms, preferably from 1 to 10 carbon atoms, in particular from 1 to 4 carbon atoms and m is a number from 1 to 100, preferably from 1 to 10, and particularly preferably from 1 to 4,

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and each of C and C^1 is, independently of the other, a single bond, an oxygen atom, a sulfur atom, an $-NH-$ or $-NR-$ group, an ester group ($-C(O)O-$ or $-O(O)C-$), an amide group ($-NHC(O)-$ or $-C(O)NH-$), a urethane group ($-OC(O)NH-$ or $-HNC(O)O-$), or a urea group ($-HNC(O)N-$ or $-NC(O)NH-$).

20 3.

A stabilizer as claimed in claim 1, containing, as active ingredient groups (II), phosphites of the general formula (2)



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in bonded form;

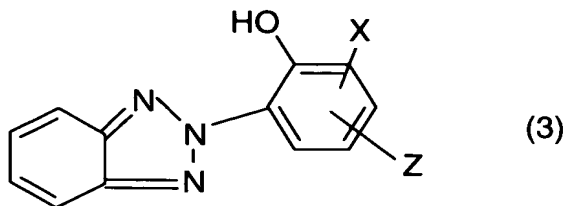
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where W^1 , W^2 , and W^3 are, independently of one another, a straight-chain, branched or cyclic alkyl radical having from 1 to 30 carbon atoms, or a substituted or unsubstituted aryl radical having from 3 to 30 carbon atoms, and W^2 and W^3 may also, independently of the other, be hydrogen, and Z is as defined in claim 2.

4.

A stabilizer as claimed in claim 1, containing, as active ingredient group (II), benzotriazoles of the general formula (3)

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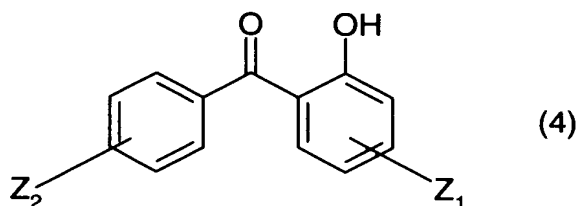
in bonded form,

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where X is a straight-chain, branched, or cyclic alkyl radical having from 1 to 12 carbon atoms, and Z is defined as in claim 2.

5. A stabilizer as claimed in claim 1, containing, as active ingredient groups (II), benzophenone active ingredients of the general formula (4)

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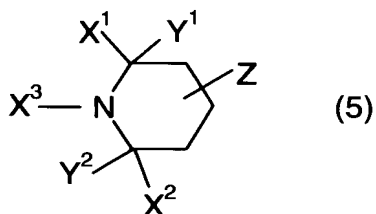
in bonded form,

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where Z₁ and Z₂, independently of one another are Z or C-X, where X is a hydrogen atom, a straight-chain or branched alkyl radical, or a cycloalkyl radical having from 1 to 12 carbon atoms.

6. A stabilizer as claimed in claim 1, containing, as active ingredient groups (II) HALS active ingredients of the general formula (5)

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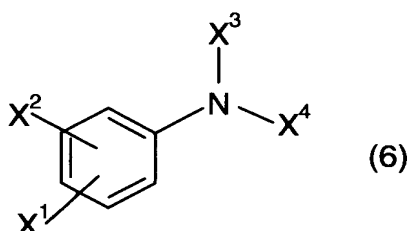


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in bonded form,

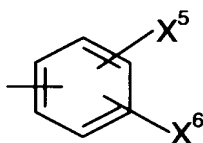
where X^1 , X^2 , Y^1 , Y^2 and X^3 are, independently of one another, a hydrogen atom, a straight-chain or branched alkyl radical, or a cycloalkyl radical having from 1 to 12 carbon atoms, and X^3 may moreover be an acyl radical having from 2 to 18 carbon atoms, an alkoxy radical having from 1 to 19 carbon atoms, or an aryloxycarbonyl radical having from 7 to 12 carbon atoms, and Z is as defined above.

7. A stabilizer as claimed in claim 1, containing, as active ingredient group (II), aromatic amines of the general formula (6)



in bonded form,

where X^1 , X^2 , X^3 and X^4 are, independently of one another, a hydrogen atom, a straight-chain or branched alkyl radical, or a cycloalkyl radical having from 1 to 12 carbon atoms or Z, and moreover X^4 may be



where X^5 and X^6 are, independently of one another, a hydrogen atom, a straight-chain or branched alkyl radical, or a cycloalkyl radical having from 1 to 12 carbon atoms, or Z, where Z is as defined in claim 2.

8. The use of the stabilizers as claimed in claims 1 – 7 for stabilizing polyolefins, polyamides, polyurethanes, polyacrylates, polycarbonates, polyesters, polyoxymethylenes, polystyrenes, or styrene copolymers.

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9. The use of the stabilizers as claimed in claims 1 – 7 for stabilizing dispersions, lacquers, coatings, dyes, adhesives, food or drink, pharmaceutical products, or cosmetics.
- 5 10. The use as claimed in claim 9 for stabilizing lacquers for coating metal, wood, plastics, paper and leather.
- 10 11. The use as claimed in claim 9, wherein the lacquers are selected from th group consisting of automobile lacquers, automobile repair lacquers, coil coatings, can coatings, aircraft lacquers and industrial lacquers.